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EXAMINER	
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ART UNIT	**PAPER NUMBER**
1634	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/762,786	OLDHAM ET AL.	
	Examiner	Art Unit	
	Robert T. Crow	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-19,61-80 and 88-94* is/are pending in the application.

4a) Of the above claim(s) *61-80* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-19 and 88-94* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/20/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

FINAL ACTION

Status of the Claims

1. This action is in response to papers filed 18 October 2007 in which the specification and claims 16-17, 19, and 88-90 were amended, claims 1, 4-10, 15, 20-21, and 81-87 were canceled, and new claims 91-94 were added. All of the amendments have been thoroughly reviewed and entered.

The previous rejections under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) not reiterated below are withdrawn in view of the amendments. Applicant's arguments have been thoroughly reviewed and are addressed following the rejections necessitated by the amendments.

Claims 16-19 and 88-94 are under prosecution.

Information Disclosure Statement

2. The Information Disclosure Statement filed 20 April 2004 was previously considered and signed by the examiner on 15 May 2006 and submitted with the Office Action of 8 June 2006. However, the Information Disclosure Statement file 20 April 2004 is a duplicate of the Information Disclosure Statement filed 9 April 2004. The references on the Information Disclosure Statement filed 20 April 2004 have therefore been crossed out to avoid duplication on the record.

3. The following rejections are new rejections necessitated by the amendments.

Claim Rejections - 35 USC § 112, First Paragraph

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 16-19 and 88-94 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. **This is a new matter rejection**. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 91, upon which claims 16-19, 88-90, and 92-94 depend, is drawn to a cover that "is formed from a PCR compatible material." A review of the specification yields no recitation of a cover that is formed of a PCR compatible material. In addition, while Applicant cites paragraphs 0023, 0045, and 0050 as well as newly submitted paragraph 0037 in support of the amendments, none of the cited paragraphs specifically teach a **cover** that is formed of a PCR compatible material. Therefore, the limitation "the cover is formed from a PCR compatible material" constitutes new matter.

Claim Rejections - 35 USC § 112, Second Paragraph

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 16-19 and 88-94 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 91, upon which claims 16-19, 88-90, and 92-94 depend, is indefinite in the recitation "the cover" in line 6 of claim 91. The recitation "the cover" lacks antecedent basis in the recitation of "a first cover layer" in line 6 of claim 91. It is suggested that the "the cover" be amended to "the first cover layer."

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 91, 16-19, and 92 are rejected under 35 U.S.C. 102(b) as being anticipated by Jakobsen et al (PCT International Publication No. WO 02/097398 A2, published 5 December2002).

Regarding claim 91, Jakobsen et al teach a microfluidic device. In a single exemplary embodiment, Jakobsen et al teach a microfluidic device comprising a sample distribution network in the form of channels formed in a substrate (Figure 9 and pages 39-40). The distribution network is used for PCR processing of nucleic acids (page 13, lines 15-25), and comprises a sample containment region in the form of analysis area 212, a sample inlet region in the form of inlet port 214a, and a sample outlet region in the form of sample outlet 320 (pages 39-40 and Figure 9). The device further comprises a first cover layer sealing the sample distribution network; namely, the device is a closed substrate (Title and Abstract) having a plastic polyolefin cover clip which covers the inlet ports (page 41, line 25-page 42, line 15 and page 11, line 22-page 12, line 3), thereby sealing them (page 4, lines 12-24). Instant claim 89 requires the first cover layer to be a polyolefin; thus, the polyolefin cover of Jakobsen et al is a PCR compatible material in accordance with the requirements of instant claim 18. In addition, the instant specification offers no guidance as to what materials are encompassed by the term a "PCR compatible material." Thus, the claim has been given the broadest reasonable interpretation consistent with the teachings of the specification regarding a "PCR compatible material" (*In re Hyatt*, 211 F.3d1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000) (see MPEP 2111 [R-1]).

Jakobsen et al further teach the device comprises a venting region formed in fluid communication with the outlet region; namely, vent 402, which has a second cover in the form of a cap that is an air- (i.e.,

gas-) permeable seal (page 39, lines 5-11). Vent 402 is positioned away from sample containment region 212 (Figure 9), and is in fluidic communication with the sample outlet region because the vent is connected to a waste area (page 4, lines 5-11), which, in turn, is connected to the outlet port (page 39, lines 11-22).

It is noted that a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also *Upsher-Smith Labs. v. Pamlab, LLC*, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005)(reference disclosing optional inclusion of a particular component teaches compositions that both do and do not contain that component); Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed."). Thus, the teaching of Jakobsen et al that the cover **may** cover all vents encompasses the alternate embodiment wherein the cover does **not** cover the air vent. See MPEP § 2123 [R-5].

Regarding claims 16-18, Jakobsen et al teach the device of claim 91, wherein the sample containment region further comprises a dried nucleic acid sequence probe; namely, a spotted array of nucleic acids is disposed in the sample containment region (i.e., claim 17), wherein the array is dried (i.e., claims 16 and 18; page 71).

Regarding claim 19, Jakobsen et al teach the device of claim 91, wherein the sample containment region comprises a plurality of sample containment regions in an array; namely, the device comprises a plurality of analysis areas (page 15, lines 10-20), which are sample containment areas. The "plurality" of Jakobsen et al encompasses two sample containment regions, which are in a linear array because two points (i.e., regions) are always in a straight line, and art thus linearly arrayed.

Regarding claim 92, Jakobsen et al teach the device of claim 91, wherein the substrate is glass or a polymer material (i.e., plastic; page 11, line 15-page 12, line 3), and can withstand thermal cycling between 60 °C and 95 °C (page 13, lines 15-25).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 91, 94, and 88-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jakobsen et al (PCT International Publication No. WO 02/097398 A2, published 5 December2002) in view of Paradine (U.S. Patent No. 5,507,409, issued 16 April 1996).

Regarding claims 94 and 88-89, Jakobsen et al teach the microfluidic device of claim 91. In a single exemplary embodiment, Jakobsen et al teach a microfluidic device comprising a sample distribution network in the form of channels formed in a substrate (Figure 9 and pages 39-40). The distribution network is used for PCR processing of nucleic acids (page 13, lines 15-25), and comprises a

sample containment region in the form of analysis area 212, a sample inlet region in the form of inlet port 214a, and a sample outlet region in the form of sample outlet 320 (pages 39-40 and Figure 9). The device further comprises a first cover layer sealing the sample distribution network; namely, the device is a closed substrate (Title and Abstract) having a plastic polyolefin cover clip which covers the inlet ports (page 41, line 25-page 42, line 15 and page 11, line 22-page 12, line 3), thereby sealing them (page 4, lines 12-24). Instant claim 89 requires the first cover layer to be a polyolefin; thus, the polyolefin cover of Jakobsen et al is a PCR compatible material in accordance with the requirements of instant claim 18. As noted above, the claim has been given the broadest reasonable interpretation consistent with the teachings of the specification regarding a "PCR compatible material."

Jakobsen et al further teach the device comprises a venting region formed in fluid communication with the outlet region; namely, vent 402, which has a second cover in the form of a cap that is an air- (i.e., gas-) permeable seal (page 39, lines 5-11). Vent 402 is positioned away from sample containment region 212 (Figure 9), and is in fluidic communication with the sample outlet region because the vent is connected to a waste area (page 4, lines 5-11), which, in turn, is connected to the outlet port (page 39, lines 11-22). As noted above, the teaching of Jakobsen et al that the cover **may** cover all vents encompasses the alternate embodiment wherein the cover does **not** cover the air vent.

While Jakobsen et al teach the use of metals in the device (page 11, lines 15-21), and the use of plastic covers comprising polyolefins (page 41, line 25-page 42, line 15 and page 11, line 22-page 12, line 3), Jakobsen et al do not teach the first cover layer is a gas-impermeable layer (i.e., claim 94) comprising an aluminum film (i.e., claim 88) or a polyolefin film (i.e., claim 89).

However, Paradine teaches a top closure film (Abstract) in the form of a gas-impermeable film layer (i.e., claim 94) comprising a metalized polymer film comprising aluminum (i.e., claim 88) and a polyolefin in the form of polyethylene (i.e., claim 89; column 7, lines 37-65), which has the added advantage of minimizing the amounts of air or moisture (i.e., contaminants) that the sealed object is

exposed to (column 3, lines 32-40). Thus, Paradine teaches the known technique of using a gas-impermeable film layer comprising aluminum and a polyolefin.

It would therefore have been obvious to a person of ordinary skill in the art at the time the claimed invention was made to have modified the device comprising a polyolefin first cover layer as taught by Jakobsen et al with the gas impermeable cover (i.e., claim 94) comprising an film of aluminum (i.e., claim 88) and a polyolefin (i.e., claim 89) of Paradine with a reasonable expectation of success. The ordinary artisan would have been motivated to make the modification because said modification would have resulted in a device having the added advantage of minimizing the amount of contaminants that the sealed device is exposed to as explicitly taught by Paradine (column 3, lines 32-40). In addition, it would have been obvious to the ordinary artisan that the known technique of using the gas-impermeable film layer comprising aluminum and a polyolefin of Paradine could have been applied to the device of Jakobsen et al with predictable results because the gas-impermeable film layer comprising aluminum and a polyolefin of Paradine predictably results in a viable seal for a fluid-containing device.

13. Claims 91, 94, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jakobsen et al (PCT International Publication No. WO 02/097398 A2, published 5 December2002) in view of Bainard et al (U.S. Patent No. 4,239,343, issued 16 December 1980).

It is noted that while claim 94 has been rejected under 35 U.S.C 103(a) as described above in Section 12, the claim is also obvious using the alternative interpretation outlined below.

Regarding claims 94 and 90, Jakobsen et al teach the microfluidic device of claim 91. In a single exemplary embodiment, Jakobsen et al teach a microfluidic device comprising a sample distribution network in the form of channels formed in a substrate (Figure 9 and pages 39-40). The distribution network is used for PCR processing of nucleic acids (page 13, lines 15-25), and comprises a sample containment region in the form of analysis area 212, a sample inlet region in the form of inlet port 214a, and a sample outlet region in the form of sample outlet 320 (pages 39-40 and Figure 9). The device

further comprises a first cover layer sealing the sample distribution network; namely, the device is a closed substrate (Title and Abstract) having a plastic polyolefin cover clip which covers the inlet ports (page 41, line 25-page 42, line 15 and page 11, line 22-page 12, line 3), thereby sealing them (page 4, lines 12-24). Instant claim 89 requires the first cover layer to be a polyolefin; thus, the polyolefin cover of Jakobsen et al is a PCR compatible material in accordance with the requirements of instant claim 18. As noted above, the claim has been given the broadest reasonable interpretation consistent with the teachings of the specification regarding a "PCR compatible material."

Jakobsen et al further teach the device comprises a venting region formed in fluid communication with the outlet region; namely, vent 402, which has a second cover in the form of a cap that is an air- (i.e., gas-) permeable seal (page 39, lines 5-11). Vent 402 is positioned away from sample containment region 212 (Figure 9), and is in fluidic communication with the sample outlet region because the vent is connected to a waste area (page 4, lines 5-11), which, in turn, is connected to the outlet port (page 39, lines 11-22). As noted above, the teaching of Jakobsen et al that the cover **may** cover all vents encompasses the alternate embodiment wherein the cover does **not** cover the air vent.

While Jakobsen et al do not teach the first cover layer is a gas-impermeable layer (i.e., claim 94), Jakobsen et al do teach the cover is an alternative to a sealing septum, and that the sealing of the septum has the added advantage of preventing the introduction of unwanted air and liquid without the substantial loss of air and fluids from the inside, thereby preventing contamination (page 29, line 25-page 26, line 12).

It would therefore have been obvious to a person of ordinary skill in the art at the time the claimed invention was made to have modified the device comprising a polyolefin first cover layer as taught by Jakobsen et al so that the first cover layer is a gas impermeable cover (i.e., claim 94) as taught by Jakobsen et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make the modification because said modification would have resulted in a device having the added advantage preventing contamination as a result of preventing the introduction of unwanted air

and liquid without the substantial loss of air and fluids from the inside by sealing the device as explicitly taught by Jakobsen et al (page 29, line 25-page 26, line 12). In addition, it would have been obvious to the ordinary artisan that the known technique of using the gas-impermeable cover layer of Jakobsen et al could have been applied to the device of Jakobsen et al with predictable results because the gas-impermeable cover layer of Jakobsen et al predictably results in a viable seal for a fluid-containing device.

While Jakobsen et al teach the use of plastic covers comprising polyolefins (page 41, line 25-page 42, line 15 and page 11, line 22-page 12, line 3), and that the septum is Teflon, which is a polytetrafluoroethylene compound (page 30, lines 1-10), Jakobsen et al do not teach the first cover layer comprises a polytetrafluoroethylene layer (i.e., claim 90).

However, Bainard et al teach covers in the form of seals obtained by coating the sealing element (i.e., cover) with a thin layer of polytetrafluoroethylene, which has the added advantage of being useful in severe sealing applications (column 1, lines 15-30). Thus, Bainard et al teach the known technique of providing a cover seal having a polytetrafluoroethylene layer.

It would therefore have been obvious to a person of ordinary skill in the art at the time the claimed invention was made to have modified the device comprising a gas impermeable polyolefin first cover layer as taught by Jakobsen et al with the cover comprising a polytetrafluoroethylene layer. (i.e., claim 90) of Bainard et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make the modification because said modification would have resulted in a device having the added advantage of being useful in severe sealing applications as explicitly taught by Bainard et al (column 1, lines 15-30). In addition, it would have been obvious to the ordinary artisan that the known technique of using the seal having a polytetrafluoroethylene layer of Bainard et al could have been applied to the device of Jakobsen et al with predictable results because the seal having a polytetrafluoroethylene layer of Bainard et al predictably results in a viable seal for a fluid-containing device.

14. Claims 91 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jakobsen et al (PCT International Publication No. WO 02/097398 A2, published 5 December2002) in view of Turner et al (U.S. Patent No. 6,331,578 B1, issued 18 December 2001).

Regarding claim 93, Jakobsen et al teach the microfluidic device of claim 91. In a single exemplary embodiment, Jakobsen et al teach a microfluidic device comprising a sample distribution network in the form of channels formed in a substrate (Figure 9 and pages 39-40). The distribution network is used for PCR processing of nucleic acids (page 13, lines 15-25), and comprises a sample containment region in the form of analysis area 212, a sample inlet region in the form of inlet port 214a, and a sample outlet region in the form of sample outlet 320 (pages 39-40 and Figure 9). The device further comprises a first cover layer sealing the sample distribution network; namely, the device is a closed substrate (Title and Abstract) having a plastic polyolefin cover clip which covers the inlet ports (page 41, line 25-page 42, line 15 and page 11, line 22-page 12, line 3), thereby sealing them (page 4, lines 12-24). Instant claim 89 requires the first cover layer to be a polyolefin; thus, the polyolefin cover of Jakobsen et al is a PCR compatible material in accordance with the requirements of instant claim 18. As noted above, the claim has been given the broadest reasonable interpretation consistent with the teachings of the specification regarding a "PCR compatible material."

Jakobsen et al further teach the device comprises a venting region formed in fluid communication with the outlet region; namely, vent 402, which has a second cover in the form of a cap that is an air- (i.e., gas-) permeable seal (page 39, lines 5-11). Vent 402 is positioned away from sample containment region 212 (Figure 9), and is in fluidic communication with the sample outlet region because the vent is connected to a waste area (page 4, lines 5-11), which, in turn, is connected to the outlet port (page 39, lines 11-22). As noted above, the teaching of Jakobsen et al that the cover **may** cover all vents encompasses the alternate embodiment wherein the cover does **not** cover the air vent.

While Jakobsen et al do not teach the second cover is a polysiloxane material.

However, Turner et al teach siloxane polymers (i.e., polysiloxanes) have the added advantage of being biocompatible and widely used in the manufacture of biomedical devices (column 11, lines 10-20). Thus, Turner et al teach the known technique of using polysiloxanes as gas-permeable materials.

It would therefore have been obvious to a person of ordinary skill in the art at the time the claimed invention was made to have modified the device comprising a gas permeable material as taught by Jakobsen et al with the gas permeable siloxane of Turner et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make the modification because said modification would have resulted in a device having the added advantage of being biocompatible and widely used in the manufacture of biomedical devices as explicitly taught by Turner et al (column 11, lines 10-20). In addition, it would have been obvious to the ordinary artisan that the known technique of using the gas permeable siloxane of Turner et al could have been applied to the device of Jakobsen et al with predictable results because the gas permeable siloxane of Turner et al predictably results in a viable gas permeable seal for a fluid-containing device.

Response to Arguments

15. Applicant's arguments with respect to the previous rejections of the claims have been considered but are moot in view of the new ground(s) of rejection necessitated by the amendments.

Conclusion

16. No claim is allowed.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

18. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing

date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert T. Crow whose telephone number is (571) 272-1113. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert T. Crow
Examiner
Art Unit 1634

DIANA JOHANNSEN
PRIMARY EXAMINER